

Teacher's Guide



Living with Wildlife

WORKING TO SOLVE WILDLIFE PROBLEMS

RESOURCES

Speakers available; educational materials including posters and activity sheets from

Your state's Wildlife Services office or

USDA Animal and Plant Health Inspection Service

Wildlife Services

4700 River Road, Unit 87,
Riverdale, MD 20737-1234 or
phone (301) 436-8281

Prevention and Control of
Wildlife Damage CD or
Handbook

202 Natural Resource Hall
University of Nebraska
P.O. Box 83819
Lincoln, NE 68583

ABOUT THIS ISSUE

This issue focuses on what happens when wild animals become pests and cause problems. It is easy to always think of animals as warm and fuzzy; it is harder to talk about animals causing problems. As human populations grow, conflict between humans and wildlife will also grow. This issue explores how people are handling some of these conflicts.

The part of the nation you live in determines what type of interaction you have with wildlife. The United States is a diverse nation geographically and developmentally. There are plains, mountains, urban and rural areas each with their specific wildlife. Some of your students may interact knowingly with wildlife every day; some may have wildlife neighbors and not know about them or see them only on rare occasions.

DEFINE WILDLIFE with your students. (Include birds, squirrels, snakes, insects, frogs, prairie dogs, skunks and bats as examples of wildlife as well as the large and more obvious deer, elk, bear, mountain lion and eagles).

DISCUSS wildlife in your area. What real life experiences have your students had with wildlife? Have they been good or bad? (HARMONY vs CONFLICT).

CLASS ACTIVITY: Have your students record each time they see wildlife and describe what the wildlife was doing.

A conflict can arise when both wildlife and people need the same resources from a habitat. This conflict may involve only a small portion of the population, occur in only a portion of the habitat or it may be restricted to a specific time of year. When conflicts arise, the wildlife involved is labeled a pest or a nuisance. Frequently, actions are taken which are designed to resolve the conflicts by providing for both human needs and those of the pest species.

DISCUSS examples of when wildlife and humans live in harmony and when they are in conflict.



A variety of wildlife/human conflicts can arise from conversion of a swamp, forest, marsh, etc. to farmland, ranches or when land is developed into housing. For example, birds can create problems for farmers when they eat corn or wheat before harvest or destroy the fruit from trees or vines before picking; coyotes prey on calves and lambs; and bears raid beekeepers' honey supplies. When natural wildlife habitat is totally or partially converted, old food sources diminish and new ones replace them. Geese will feed in cultivated wheat fields and large predators will find at lambs or calves as easy prey.

Ranchers have gone to check on their herds of sheep to find that a mountain lion has been killing sheep to feed her young or teaching them to hunt. These losses can be devastating to the sheep rancher.

Conflicts may arise because of "edge effect" which provides two types of habitat for wildlife to use. For example, when edge is created in a forest by clearing trees to make a road, a number of wildlife species will use the open area for feeding and resting activities. The attraction of edge to wildlife is clearly illustrated by the thousands of animals that are killed on U.S. highways each year. Deer and birds are common highway casualties. Because of their size, deer cause significant damage to human property and lives when they collide with automobiles. Furthermore, roadways may be damaged by the burrowing activities of beavers, ground squirrels, marmots and other

animals resulting in potholes and cave-ins.

It is relatively simple to understand why and how conflicts between people and wildlife occur in agricultural areas. Farmland and residential areas near natural habitats may provide sources of food, shelter and water for many animal species. Often the natural checks and balances for a burgeoning wildlife population are not in place, and an increase in wildlife numbers often means an increase in human-wildlife conflicts.

Urban-dwelling wildlife species can create disturbances when they move indoors. Mice and rats take advantage of the shelter and food available in residences. The same is true of squirrels, raccoons, opossums, lizards, bats and snakes. These animals will often find a niche in a house that will fulfil their habitat needs. The fact that some of these wildlife species carry diseases make them a dangerous addition to the household. Some snake and lizards might actually be beneficial if people were not frightened by them. Raccoons can cause extensive damage to buildings by "renovating" them to serve as homes. Thousands of dollars of damage are done each year when raccoons tear off roofing to find shelter.

Outside, raccoons are notorious for their nighttime raids on garbage cans. Moles frequently dig up lawns when burrowing. Rabbits, squirrels and deer may feed on gardens, flowers and shrubs. Squirrels may live in the attic and chew through electric lines and create a fire hazard. When skunks move in under homes, they create a very unpleasant odor. Insects are attracted to the lights of houses and they in turn can attract insect-predators such as bats.

It can be seen that the wide array of attractive habitats created inadvertently by humans has led to conflicts with wildlife. Sometimes these conflicts can be harmless or even funny; other conflicts are only annoying; others may be frightening. Some conflicts can pose major economic or physical threats to people.

Many conflicts can be avoided or their impact reduced through careful planning and management.

Newspaper Activities

1. PUBLIC INSTITUTIONS: Reread the page 1 article "Living with Wildlife". Discuss the sentence "Wildlife belongs to the public." Find five U.S. government agencies in today's newspaper. What do these agencies do? How are we responsible for them?
2. LIVING IN HARMONY: On page 3 of the Reader, you see examples of harmony and conflicts between humans and wildlife. Now think about both harmony and conflict between and among peoples. Find three examples of each in today's newspaper.
3. LOOKING FOR CAREERS: The Wildlife Reader refers to several careers associated with the managing of wildlife. In today's newspaper classified section, find a help wanted ad in one of these careers.

VOCABULARY

Many new words are used in this issue of the Reader.

Have each of your students define a word, report on and give an example of its use in a sentence. Some words are more difficult than others. Here is an opportunity to show how a dictionary can help them determine how a word is used. You may want to have them break the words into syllables, make words singular or plural, identify if the word is a noun, adjective, verb, etc. Use these words as a spelling list.

PAGE 1:

citizen
public
pests
diseases
predators
responsible
damage
agencies
federal
state

PAGE 2

environment
populations
migratory
threatened
endangered
resident

PAGE 3

harmony
conflicts

PAGE 4

terns
gulls

PAGE 5

guard animals
vaccinating
bait
exotic

PAGE 7

biologist
integrated pest management

ANSWERS TO READER CHALLENGES

Page 2:

Federal Agency: USDA
Wildlife Services
State Agency: Oregon
Department of Fish and Wildlife

Page 3:

C; H; H; C; C; H
Answers will vary depending on the animal the student selects. You will need to determine their understanding of HARMONY and CONFLICT

Page 6:

1. coyotes
2. \$14,533,727
Value of sheep killed by bear is $\$695,254/13,675 = \50.84
Value of sheep killed by coyote is $\$14,533,727/322,125 = \45.12

Value of sheep killed by predators is $\$23,616,006/550,600 = \42.89
Why the difference? Bears often kill larger sheep than coyotes. Sheep are sold by the pound. The larger the sheep, the more valuable.

Page 8: Answers to Crossword Puzzle ACROSS

2. biologist
4. population
5. deer
7. citizen
9. conflicts

SCIENCE CONTENT STANDARDS

This issue of the Wildlife Reader helps you achieve the following national Science Content Standards

Life Science

Levels k-4:

Organisms and environments

Levels 5-8:

Structure and function in living systems;

Populations and ecosystems;

Diversity and adaptations of organisms

Levels 9-12:

Interdependence of organisms

Science in Personal and Social Perspective

Level K-4

Changes in environments

Levels 5-8

Populations, resources and environments

Levels 9-12

Population growth

Natural resources

Environmental quality

11. cormorant

DOWN

1. coyote

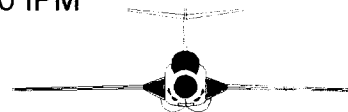
3. federal

4. predator

6. bears

8. pest

10 IPM



A major conflict affecting people and wildlife is air traffic, both around airports and in flight. Birds and airplane engines are not compatible.

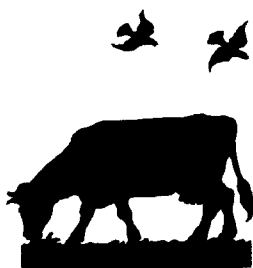
ANSWERS TO QUIZ:

1. g
2. habitat
3. Wildlife Services
4. USDA - United States Department of Agriculture
5. a
6. answers will vary
7. true

GETTING ALONG

Wildlife needs habitat for food, water, space and cover. Humans, through development, provide, alter and destroy habitats. Wildlife populations in turn respond positively or negatively to these habitat changes. Conflicts can arise, but many conflicts may be avoided through proper planning and by noting how alterations will affect species. Many times, altering habitats can be mutually satisfying to people and wildlife. Desirable songbirds can be attracted to residential plantings, new sport fish can be introduced in a lake, and insect-eating birds often settle on a farm.

Through consideration of both wildlife and human needs, a great many serious wildlife conflicts can be avoided.



Farms and ranches provide homes to 75% of our nation's wildlife.

Name: _____

U.S. DEPARTMENT OF AGRICULTURE
NATIONAL WILDLIFE CENTER

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Wildlife Quiz

1. Wildlife are
 - a. mammals
 - b. birds
 - c. amphibians
 - d. fish
 - e. reptiles
 - f. insects
 - g. all of the above
2. The area that wildlife live in is called _____.
3. WS is the federal agency responsible for responding to problems of "pest" or "nuisance" animals. What do the initials stand for?

4. WS is part of what larger government agency?

5. If a skunk moves under your house, you could
 - a. phone Wildlife Services
 - b. pack your bags and leave as soon as possible
 - c. use a door at the opposite side of the house
 - d. buy extra air freshener
 - e. keep your dog tied up
6. What wildlife did you see most recently and what was the animal doing? _____

7. TRUE or FALSE. Animals contribute to our enjoyment of nature and the outdoor recreation, but they can also damage agriculture and natural resources and threaten human health and safety.